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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/589,715

10/23/2006

Wilfried Weiss

NY-DNAG-324-US

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EXAMINER

NWAONICHA, CHUKWUMA O

ART UNIT

PAPER NUMBER

1621

MAIL DATE

DELIVERY MODE

05/23/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/589,715	Applicant(s) WEISS ET AL.	
	Examiner CHUKWUMA O. NWAONICHA	Art Unit 1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 10-19 are pending in the application.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 is rejected because the claim recites the phrase “**a process comprising producing**”. Applicants need to rewrite the sentence. Suggestion: “A process comprising the step of producing ---”. Correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

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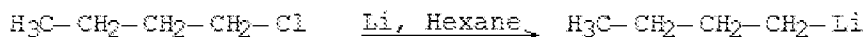
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buckley et al., {WO 2002020151 same as US 6,841,095}, Iwao et al., {JP 10182658} or Schwindeman, {WO 9603408 same as US 5,403,946} in view of Screttas et al. {US 3,780,045}, Beumel et al. {US 3,446,860} or Morrison {WO 9219622}.

Applicants claim a process comprising producing at least one of an alkyl or aryl lithium compound by reacting lithium metal with at least one alkyl or an aryl halide in at least one solvent, wherein the concentrations of the alkyl halide or the aryl halide and the alkyl or aryl lithium compound are determined by inline measurement in the reactor by IR spectroscopy; wherein all the variables are as defined in the claims.

Determination of the scope and content of the prior art (M.P.E.P. §2141.01)

Buckley et al. teach a chemical plant for performing a chemical reaction between particles of a material such as lithium metal, and a reagent such as Bu chloride in solution in hexane, in which one reaction product is a solid material, includes a reaction vessel. Buckley et al. teach various concentrations of the reactants at a temperature up to 81°C. The reaction step is shown below.

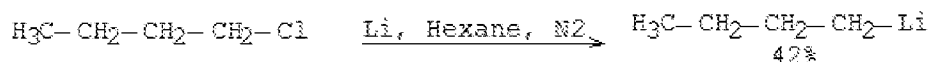


Iwao et al. teach a process for preparing alkyllithiums by reaction of alkyl halides with Li containing ≤ 500 ppm N. BuCl was reacted with Li containing 160 ppm N in

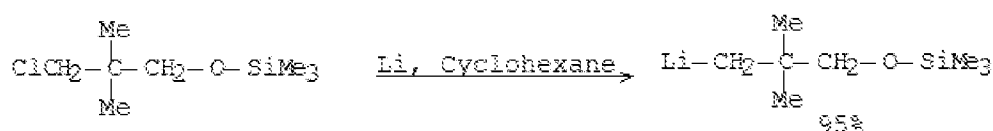
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hexane at room temperature for 30-40 min, then filtered for 1 min to give 42% BuLi.

The reaction step is shown below.



Schwindeman teaches a process for producing compound shown below by reacting halocompound with hexamethyldisilazane, in an inert atmospheric in hydrocarbon solvent, at a temperature between 20° and reflux temperature of the solvent followed by lithiation with powdered lithium metal. Thus, reaction of 3-chloro-2,2-dimethyl-1-propanol with hexamethyldisilazane in cyclohexane gave 3-chloro-2,2-dimethyl-1-trimethylsiloxypropane which on lithiation with lithium dispersion gave title compound, 3-chloro-2,2-dimethyl-1-trimethylsiloxypropyllithium. The reaction step is shown below.



Ascertainment of the difference between the prior art and the claims (M.P.E.P..

§2141.02

Applicants claimed process comprising producing at least one of an alkyl or aryl lithium compound by reacting lithium metal with at least one alkyl or an aryl halide in at least one solvent differs from the process taught by Buckley et al. Iwao et al. and Schwindeman in that the prior art references do not teach a process that produces aryl lithium compound as claimed by Applicants.

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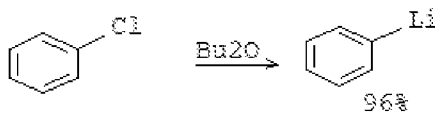
However, the secondary reference of Screttas et al. teach a process of producing an aryl lithium compound in a high yield by reacting lithium metal with aryl halide in an organic solvent at -80°C to 30°C. Screttas et al. teach various concentrations of the reactants, and the yield analyzed by NMR.



Beumel et al. teach a process of producing an aryl lithium compound in a high yield by reacting lithium metal with aryl halide in an organic solvent. Beumel et al. teach various concentrations of the reactants in the presence of sodium.



Morrison teaches a process of producing an aryl lithium compound in a high yield by reacting lithium metal with aryl halide in an organic solvent. Morrison teaches various concentrations of the reactants.



Finding of prima facie obviousness--rational and motivation (M.P.E.P.. §2142-2143)

The instantly claimed process of producing an alkyl or aryl lithium compound by reacting lithium metal with alkyl or aryl halide in a solvent would have been obvious in view of the references cited because they teach the process of producing an alkyl or

aryl lithium compound in a high yield by reacting lithium metal with alkyl or aryl halide in an organic solvent.

One of ordinary skill in the art would have a reasonable expectation of success in practicing the instant invention by conducting the process/employing the conditions from the teachings of prior art references to arrive at the instantly claimed process of producing an alkyl or aryl lithium compound. Said person would have been motivated to practice the teaching of the references cited because they demonstrate that alkyl or aryl lithium compounds is useful in industrial applications.

The Examiner notes that the use of IR to monitor the progress of a reaction as claimed by Applicants does not constitute a patentable distinction. It is well known in chemical synthesis that the progress of a reaction or a process is followed/monitored by IR, GC, NMR or other instrumental or wet chemistry techniques. Applicants claim to the use of IR to probe the reaction has no bearing on the process step claimed because Applicants are claiming a process and not a reaction vessel for making the product.

Moreover, all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11

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F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 10-19 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 17-45 of copending Application No. 10/498,186 in view of Emmel et al and claims 1-21 of copending Application No. 10/498,186 (now US 7,175,784) in view of Weiss et al. This is a provisional and non provisional obviousness-type double patenting rejections.

The presently claimed process for producing at least one of an alkyl or aryl lithium compound by reacting lithium metal with at least one alkyl or an aryl halide in at least one solvent is disclosed in the copending Application No. 10/498,186 and US 7,175,784. See claims 17-45 of copending Application No. 10/498,186 and claims 1-21 of now US 7,175,784.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the scope of the claims overlaps substantially with the scope of claims 17-45 of copending Application No. 10/498,186 and claims 1-21 of US 7,175,784. The claims differ in that the process for producing at least one of an alkyl or aryl lithium compound by reacting lithium metal with at least one alkyl or an aryl halide

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in at least one solvent of the presently claimed invention is broader in scope than each of the process of the copending Application No. 10/498,186 and US 7,175,784. While applicants claim a process wherein IR is employ to monitor the progress of the reaction, the copending Application No. 10/498,186 and US 7,175,784 are silent about the use of IR to monitor the progress of the reactions they teach. This difference is not a patentable distinction because Emmel et al and Weiss et al. teach the elements of the claimed invention with sufficient guidance, particularity, and with a reasonable expectation of success, that the invention would be *prima facie* obvious to one of ordinary skill in the art. Additionally, it is well known in chemical synthesis that the progress of a reaction or a process is followed/monitored by IR, GC, NMR or other instrumental or wet chemistry techniques.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chukwuma O. Nwaonicha whose telephone number is 571-272-2908. The examiner can normally be reached on Monday thru Friday, 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne (Bonnie) Eyler can be reached on 571-272-0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Chukwuma O. Nwaonicha/
Examiner, Art Unit 1621

(for)

/Sikarl A. Witherspoon/
Primary Examiner, Art Unit 1621

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